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ABSTRACTS OF PAPERS ON PLANT PROTECTION

FIELD EVALUATION OF A NON-TOXIC SEED TREATMENT FOR REDUCING BLACKBIRD DAMAGE TO SPROUTING RICE

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Blackbird damage to sprouting rice is a persistent problem for Gulf Coast rice producers. Birds feed on germinating rice seeds and seedlings which can cause replanting or a thin stand. Conservative estimates of annual direct and indirect losses to blackbirds on sprouting rice in Texas approach $5 million. Registration of bird repellents or toxicants is very difficult to obtain and maintain due to potential adverse side effects on desirable avian species and other wildlife, possible contamination of the environment, and human health hazards. The Denver Wildlife Research Center, Florida Field Station developed a non-toxic rice seed coating consisting of clay and gelatin. When exposed to water, coated seed becomes wet and sticky and fouls the birds' bills. In preliminary cage tests, red-winged blackbirds preferred uncoated to coated seed. In 1989, the blackbird repellency of clay-gelatin coated rice seed was evaluated on three commercial rice fields in Chambers County, Texas.

Each field was assigned one test site which consisted of two 0.4 ha (1 ac) plots one of which was randomly selected to receive coated seed. Sites were prepared by growers according to local practices. One site was dry-seeded; the others were water planted at 113 kg seed/ha (100 lb seed/ac). Prior to seeding, 20 sampling units each 0.19 m^2 (2.0 ft^2) were placed in each plot. Sampling units were protected by wire mesh, bird-proof exclosures. Next to each protected unit was a randomly selected unprotected (without bird exclosure) unit of equal size. After the period of rice vulnerability to blackbird depredation, seedlings were counted in all units. Bird activity was also monitored at one site.

Seedling counts showed that losses at two sites were considerably greater on the plots with uncoated than coated seed. When all sites were considered, plots with coated and uncoated seed suffered 17.0% and 36.5%, respectively, seedling loss due to blackbirds. However, this difference was not significant. At the site where bird activity was observed, over 14 times as many red-winged blackbirds and grackles were observed in the plot with uncoated seed. The average rate of feeding of red-winged blackbirds was reduced in plots with coated seed (1.6 versus 8.4 rice seeds/seedlings consumed per minute).